AMENDMENTS TO THE SPECIFICATION

On page 3, please amend paragraph [0006] of the specification as follows:

[0006] As mentioned above, photoconductors may also have diode structures based on either a p-i-n or p-n configuration. Figure 1B illustrates a conventional p-i-n diode. Such a photodiode 100 is termed a "p-i-n" diode for the configuration of semiconductor material in the diode. Photodiode 100 is composed of a p-doped semiconductor (p-type) material layer 110 and an n-doped semiconductor (n-type) material layer 130. Light is made incident on the depletion region between the p-type and the n-type material layers, creating electron-hole pairs and thus a current. To control the thickness of the depletion region, a layer 120 of intrinsic (i) material is inserted between the p-doped semiconductor material layer 110 and the n-doped semiconductor material layer 130. This structure may be used to detect an x-ray which is incident on either the p-doped semiconductor 110 or the n-doped semiconductor 130. Photodetectors based on a p-i-n structure also include contacts to apply bias to the material layers, as illustrated in Figure 1C. Photodetector 150 includes a top contact conductor 181 connected to p-doped region 182 and a bottom contact conductor ~~285~~185 connected to n-doped region ~~284~~184. P-doped region ~~282~~182, intrinsic layer ~~283~~183 and n-doped region ~~284~~184 are all semiconductor materials as described with respect to detector 100. The layers are formed on a substrate ~~286~~ 186 that acts as a base for the detector 150.

On page 4, please amend paragraph [0007] of the specification as follows:

[0007] As mentioned above, the p-i-n structure may be used to detect x-rays that are incident on either of the p-doped semiconductor material layer ~~282~~ 182 or the n-doped semiconductor material layer ~~285~~185. In operation of p-i-n photodiode 150, a reverse-bias voltage is applied across the photodiode and x-rays are made incident upon the intrinsic region ~~283~~183. The electron-hole pairs then separate under the applied electric field and quickly migrate toward their respective poles. The electrons move toward the positive pole and the holes move toward the negative pole. Conventional photodiodes have narrow

intrinsic regions ~~283~~183. Due to the narrowness of the intrinsic region ~~283~~-183 and also due to the high mobility of the intrinsic material, there is little chance that the carriers will recombine before they arrive at the interface with the doped material. The electrons and holes then collect near the respective interface with the doped material. The change in resistivity results in a change in one or both of a voltage or current between top conductor ~~281~~-181 and second conductor ~~286~~186, which may be measured in a surrounding system (not shown).